IN THE CLAIMS:

The text of all pending claims is presented for the convenience of the Examiner. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (PREVIOUSLY PRESENTED) A serial bus interface device having a function of automatically reconstructing a topology when the device is inserted or withdrawn during operation of a serial bus, comprising a physical layer circuit serving as a physical interface without being given an identification number during the operation of the serial bus after the serial bus interface device is connected to the serial bus.

2. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 1, further comprising a data storing unit storing data on the serial bus, which is received by the physical layer circuit.

3. (PREVIOUSLY PRESENTED) A serial bus interface device having a function of automatically reconstructing a topology when the device is inserted or withdrawn during operation of a serial bus, comprising a physical layer circuit serving as a physical interface to which a plurality of identification numbers are simultaneously assigned when the serial bus interface device is connected to the serial bus.

4. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 3, further comprising a data storing unit storing data on the serial bus, which is received by the physical layer circuit in association with the identification numbers.

5. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 2, further comprising a data condition detecting unit monitoring data on the serial bus, which is received by the physical layer circuit and, when data matching a predetermined condition is detected, outputs a trigger signal,
    wherein the data storing unit stores data in response to the output of the trigger signal.

6. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 1, further comprising a control circuit transferring data to be transmitted onto the serial bus via the physical layer circuit to the physical layer circuit.

7. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 6, further comprising a transmission data storing unit storing data to be transmitted.

8. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 7, further comprising a data transmission condition detecting unit monitoring data on the serial bus, which is received by the physical layer circuit and, when data matching a predetermined condition is detected, outputs a trigger signal,

wherein the control circuit transfers data to be transmitted which is stored in the transmission data storing unit in response to the output of the trigger signal to the physical layer circuit.

9. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 1, further comprising:

a pair of communication ports; and

a converting unit converting data received from the serial bus via the physical circuit,

wherein data received by one of the pair of communication ports or the converted data is transferred to the other communication port.

10. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 4, further comprising:

a data condition detecting unit monitoring data on the serial bus, which is received by the physical layer circuit in accordance with at least one of the identification numbers and, when data matching a predetermined condition is detected, outputting a trigger signal corresponding to the at least one of the identification numbers,

wherein data is stored in the data storing unit in association with the at least one of the identification numbers in response to the output of the trigger signal corresponding to the at least one of the identification numbers.

11. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 3, further comprising a control circuit transferring data to be transmitted onto the serial bus in accordance with at least one of the identification numbers via the physical layer circuit to the physical layer circuit.

12. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 11, further comprising a transmission data storing unit storing data to be transmitted according to the at least one of the identification numbers.

13. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 12, further comprising a data transmission condition detecting unit monitoring data on the serial bus, which is received by the physical layer circuit in accordance with the at least one of the identification numbers and, when data matching a predetermined condition is detected, outputting a trigger signal corresponding to the at least one of the identification numbers,

wherein the control circuit transfers data to be transmitted according to the at least one of the identification numbers stored in the transmission data storing unit in response to the output of the trigger signal corresponding to the at least one of the identification numbers to the physical layer circuit.

14. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 3, further comprising:

a group of communication ports according to the identification numbers; and

a converting unit converting data received from the serial bus through the physical layer circuit,

wherein data received by any one of the group of communication ports or the converted data is transferred to at least one of the other communication ports.

15. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 1, wherein the serial bus interface device is a bus analyzer analyzing the serial bus.

16. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 1, wherein the identification number is not assigned to the physical layer circuit during a self-identifying operation.

17. (PREVIOUSLY PRESENTED) A serial bus interface device according to claim 1, wherein the physical layer circuit serves as the physical interface without being given an identification number after a self-identifying operation.

18. (PREVIOUSLY PRESENTED) A serial bus interface device having a function of

automatically reconstructing a topology when the device is inserted or withdrawn during operation of a serial bus, comprising a physical layer circuit transmitting and receiving packets without being given an identification number after the serial bus interface device is connected to the serial bus.

19. (PREVIOUSLY PRESENTED) A serial bus interface device having a function of automatically reconstructing a topology when the device is inserted or withdrawn during operation of a serial bus, comprising a physical layer circuit serving as a physical interface without being given an identification number after a self-identifying operation.

20. (PREVIOUSLY PRESENTED) A method of simulating a plurality of identification numbers on a serial bus, the method comprising:

adding a serial bus interface device to the serial bus, wherein the device has a function of automatically reconstructing a topology when the device is inserted or withdrawn during operation of the serial bus, and

assigning a plurality of identification numbers to a physical interface of the device simultaneously when the device is connected to the serial bus.